

# T-PA LEAN Project

Presented by:  
Charity Barrueta RN  
Stroke/STEMI Program Coordinator  
Asante Rogue Regional Medical Center in Medford,  
OR



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## How it all started



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## Background of LEAN

- Lean principles are derived from the Japanese manufacturing industry.
- Lean production was pioneered by Toyota after World War II.
- The term was first coined by John Krafcik in his 1988 article, "Triumph of the Lean Production System"

## So what is LEAN?

- A 5-step thought process designed to guide managers through a lean transformation.

## 5 steps of LEAN



## LEAN in a nutshell

- Lean implementation is focused on getting the right things to the right place at the right time in the right quantity to achieve perfect work flow, while minimizing waste and being flexible and able to change.

# Getting started at Asante

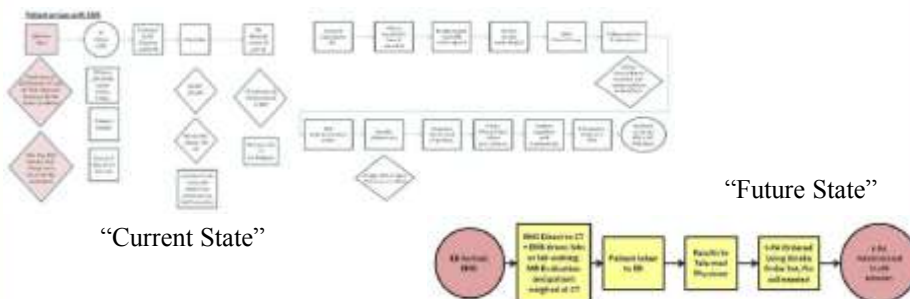
- Team members
  - Executive sponsor (Jamie Grebosky MD)
  - Physician champion (Oscar Sanchez MD)
  - Project lead (Charity Barrueta RN)
  - Pharmacy (Ed Hyde RPH)
  - Lab (Jini Danis)
  - CT/Imaging (TeJay Perry)
  - ED Nurse (John Byers RN)
  - ED Physician (Joshua Cott MD)
  - ED Tech (Bertrum O'Brien)
  - LEAN Project facilitators (Karen Bales and Melinda Mcvay)

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## 1<sup>st</sup> mtg: Develop an Aim statement

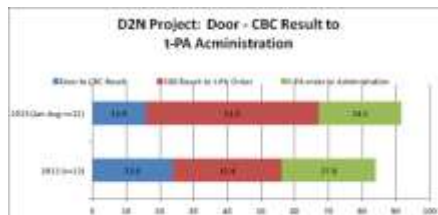
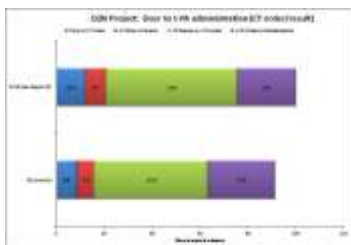
- Decrease door to needle time to  $\leq 60$  minutes, 100% of the time by December 31, 2013.



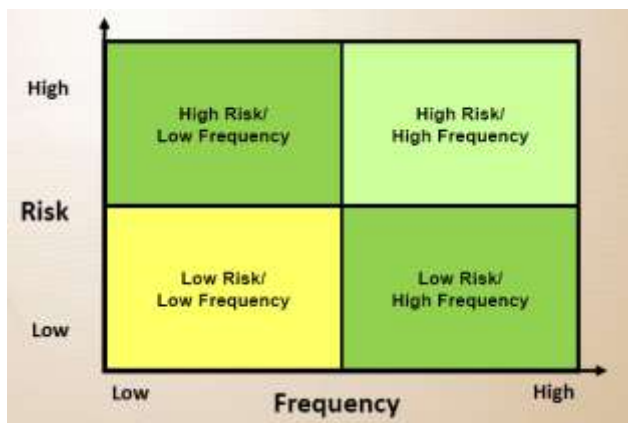
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# Homework



## 2<sup>nd</sup> mtg: Risk Frequency Grid



# 3<sup>rd</sup> mtg: The Checklist

Each patient group will have a checklist. The checklist will be a 1-page checklist. Items on the checklist will be grouped into categories. The checklist will be for the physician and when the list has been reviewed the doctor should be asked that the patient is a patient who is eligible for the checklist and that the checklist is appropriate for the patient. The checklist will be reviewed by the team and then used.

**Stroke Alert Patient Checklist**

Use to alert Stroke Assessment Team (SAT) and Stroke Alert (SA) team.

AMT calls in stroke alert. Change stroke assessment protocol (CT).

**Step 1: Patient arrival and assessment**

Physician or other qualified professional (PA) available. Stroke alert (SA) team call (1-1-1).

**Step 2: Physician orders Stroke Alert and assessment**

Physician orders Stroke Alert and assessment (AMT), including CTA. Stroke Alert (SA) team.

**Step 3: CT scan for stroke patient or CT**

CT scan for stroke patient or CT. CT scan for stroke patient or CT. CT scan for stroke patient or CT.

**Step 4: Review to give CT**

Physician reviews CT scan. Stroke Alert (SA) team. Stroke Alert (SA) team.

**Step 5: Physician orders Stroke Alert and assessment**

Physician orders Stroke Alert and assessment (AMT), including CTA. Stroke Alert (SA) team.

First Draft

**ARRMC Stroke Activation Patient Checklist**

**#1 Before Patient Arrives**

- Change stroke assessment protocol (SA) team.
- Physician orders Stroke Alert and assessment (AMT), including CTA. Stroke Alert (SA) team.

**#2 Before CT**

- Physician reviews CT scan. Stroke Alert (SA) team.
- Physician orders Stroke Alert and assessment (AMT), including CTA. Stroke Alert (SA) team.

**#3 Before CT**

- Physician orders Stroke Alert and assessment (AMT), including CTA. Stroke Alert (SA) team.

**#4 After CT**

- Physician orders Stroke Alert and assessment (AMT), including CTA. Stroke Alert (SA) team.

**#5 Decision to Administer tPA**

- Physician orders Stroke Alert and assessment (AMT), including CTA. Stroke Alert (SA) team.

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Final

# 4<sup>th</sup> mtg: A3

**Project Title and Area: t-PA – Door to Needle Time (DNT)** Date: 6/24/2013 Authors: Karen Bales and Melinda McVay

**Define:** The goal of this project is to reduce the time from patient arrival to the hospital to the administration of t-PA. The current process is that the patient is brought to the hospital and the physician orders t-PA. The goal is to reduce the time from patient arrival to the hospital to the administration of t-PA.

**Measure:** The team measured the time from patient arrival to the hospital to the administration of t-PA. The team measured the time from patient arrival to the hospital to the administration of t-PA.

**Analyze:** The team analyzed the data and found that the time from patient arrival to the hospital to the administration of t-PA was significantly longer than the goal. The team analyzed the data and found that the time from patient arrival to the hospital to the administration of t-PA was significantly longer than the goal.

**Future State:** The team proposed a future state where the time from patient arrival to the hospital to the administration of t-PA is significantly shorter than the current state. The team proposed a future state where the time from patient arrival to the hospital to the administration of t-PA is significantly shorter than the current state.

**ARRMC Stroke Activation Patient Checklist**

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# Final mtg: Progress?



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## Staff feedback

### TPA Stroke Golden Hour Teams



**Shortest Time (prior to success):**  
Date & Time: 4/29/14 @ 0919  
Pt initials: J.F.  
MRN: 207761  
EMS: Yes  
ED Team: Peter Canning MD, Daphne Cimco RN, Austin Owens, John Byars RN, Tera Coddington, Wendy Tankersley  
CT: Candace Stealy RT  
Lab:  
Pharmacist: Elaine Reimann, RPH  
Door to Needle: **33 minutes!**  
Comments: You are amazing! **Excellent job on D2N (Door to Needle) of 33 minutes.** You are the team to beat!

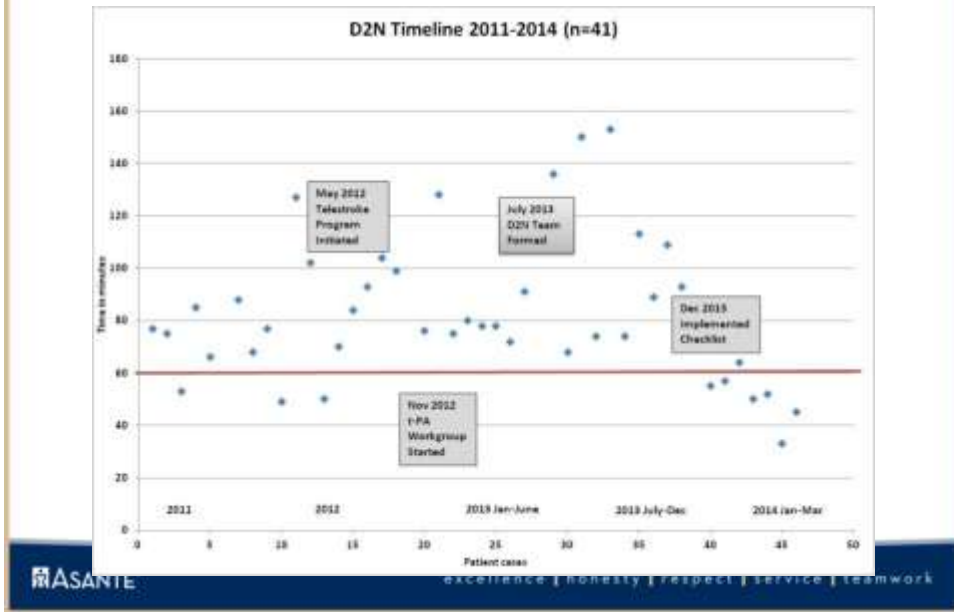
**Current Time:**  
Date & Time: 5/15/14 @ 0846  
Pt initials: L.W.  
MRN: 200128457  
EMS: Yes - Mercy Flight  
ED Team: Ken Buccino MD, Barbara Hapson RN, John Byars RN, Daphne Cimco RN, Cassie Bordeaux, Donna Morgan  
CT: Derral Brockamp, Roberts Cook RT  
Lab:  
Pharmacist: Deanna Dickson, RPH  
Door to Needle: **45 minutes!**  
Comments: Great job on D2N (Door to Needle) of 45 minutes. You had some potential barriers but you overcame them!

Goal: Door-to-Needle < 90 minutes

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# Looking good...



# Summary of process

**Project Title and Area:** t-PA – Door to Needle Time (DNT) **Date:** 6/24/2013 **Author(s):** Karen Boles and Melinda McVay

**Define:**

**Background of Problem:** Currently, there is no streamlined process in place for tPA jobsites. The minimal number of patients who get into the tPA category makes it difficult to streamline the process. Additionally, there are several departments involved within the process making it difficult to communicate effectively with the customer process.

**Problem Statement (5M Statement):** It is essential to create a streamlined process for tPA orders. Timing of administering tPA is crucial to gain optimal results for patients who fit the criteria. The goal of this project is to create a process that will decrease door to needle time to 60 minutes +10% by December 31, 2013.

**Measure:**

Subject Matter Experts from each department completed a review of all tPA cases from January 2012 through June 2013. The values of door to needle times were given specific data included the outliers of why the system did not work in their particular area. The majority of the outliers were from outside the goal getting test results. The team inquired about to review for the past six years. The data include a breakdown of the individual timing of each step involved within the process. The team provided the top opportunities for improvement, which led to the discussion of the benefits of creating a "Stroke Alert Patient Workflow" checklist for staff members to follow for all stroke patients.

**Analyze:**

**Future State:**

**Root Cause- Solution:**

- Streamlined key steps critical to the process, identifying needs and standardizing the steps in the process. Clarifying the critical steps that are frequently missed due to low volume of occurrences.
- Ensure department staff members are educated on tPA patient criteria by scheduling training sessions and disseminating information in manager's newsletters.

**Control:**

Continued monitoring of program

- Case reviews
- Clearly opportunities for improvement
- Share results with team/department
- Alerting Corp to tPA issues on a weekly basis

**Improve:**

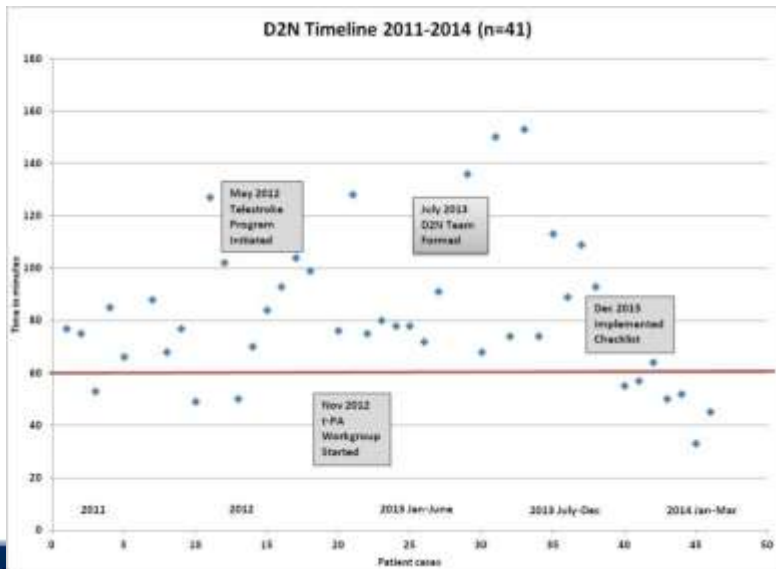
**ASANTE Stroke Activation Status Checklist**

**ASANTE Stroke Activation Status Checklist**

**ASANTE Stroke Activation Status Checklist**



# Lessons learned



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# Summary cont.

**Stroke D2N stats**  
(as of 5-22-14)

	AHA/DNV Goal Times	RRMC Goal Times	Jan 2013 - Dec 2013 (n=20)	Jan 2014 - Current (n=7)	Time Difference
Door-Doctor first sees patient	≤10min	≤5min	3.07min	3.25min	+0.18min
Door to CT		≤10min	15.74min	8min	-7.75min
Door to CT completed	≤25min	≤20min	24.84min	15min	-9.84min
Door to CT read/resulted	≤45min	≤30min	36.42min	33.8min	-2.62min
Door to Labs collected			12.05min	4.2min	-7.85min
Door to PT/PTT/INR resulted	≤60min		37.58min	25min	-12.58min
Door to Platelets (CBC) resulted	≤60min		33.11min	24min	-9.11min
Door to tPA	≤60min	≤60min	88.17min	50.9min	-37.27min

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Thank you!

